

AMENDMENTS TO THE CLAIMS:

If entered, this listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (currently amended) A system to adjust colors in any kind of electronic display comprising:

a color screen used as a display using primary colors of a color space;

a system processor sending downloading display data to a display driver

5 circuit; and

a display driver circuit comprising:

a processor interface logic providing the interface between said system processor and said display driver circuit;

a display adjust circuit adjusting the display data received from said

10 system processor via said processor interface logic and writing a modified display data into a display RAM wherein said adjustment is performed for each color by linearly scaling by a programmable amount according equations by a simple operations of color adjust registers, wherein said amount corresponds to: adjustment = color_{unadjusted}/2ⁿ~~operation comprises a factor 2ⁿ~~,

15 wherein n is a parameter set for each primary color;

said one or more color adjust registers;

the display RAM for storing the adjusted display data, and

a screen driver controlling said screen and sending said adjusted display data to said screen.

2. (original) The system of claim 1 wherein said color space is RGB.
3. (original) The system of claim 1 wherein said color space is CMY.
4. (original) The system of claim 1 wherein said screen is a LCD display.
5. (original) The system of claim 4 wherein said LCD display is a CSTN display.
6. (original) The system of claim 4 wherein said LCD display is a DSTN display.
7. (original) The system of claim 1 wherein said screen is a TFT display.
8. (original) The system of claim 1 wherein said screen is an OLED display.
9. (original) The system of claim 1 wherein said display adjust circuit is using two color adjust registers to store the adjustment data defining the amount of adjustments.
- 10.(original) The system of claim 9 wherein said color adjustment registers are storing the adjustment data for each of all primary colors of the color space selected.

- 11.** (original) The system of claim **10** wherein said color adjustment registers are comprising three bits to store the adjustment information for each of two primary colors and four bits for a third primary color.
- 12.** (original) The system of claim **11** wherein said color adjustment registers are comprising three bits to store the adjustment information for each of red color and blue color and four bits for green color.
- 13.**(original) The system of claim **1** wherein said display data are stored in said display RAM using a 16-bit word.
- 14.** (original) The system of claim **13** wherein said 16-bit word comprises five bits each for two primary colors and six bits for a third primary color.
- 15.** (original) The system of claim **14** wherein said 16-bit word comprises five bits for each red and blue 5 and 6 bits for green.
- 16.**(original) The system of claim **1** wherein the color display data is linearly scaled by programmable amount.

- 17.** (original) The system of claim **16** wherein the display data are adjusted for each color according equations which are implemented in said display adjust circuit using a hardware description language.
- 18.** (original) The system of claim **17** wherein the display data are adjusted for each color according equations which are implemented in said display adjust circuit using register transfer level (RTL) language.
- 19.** (original) The system of claim **16** wherein each primary color of the color display data is linearly scaled by programmable amount and wherein said programmable amount is defined in case of a required decrease of a primary color according to the equation
- $$\text{color}_{\text{adjust}} = \text{color}_{\text{unadjust}} - \text{color}_{\text{unadjust}}/2^n,$$
- wherein $\text{color}_{\text{adjust}}$ is the value of the adjusted color, $\text{color}_{\text{unadjust}}$ is the value of unadjusted color, and n is a parameter set for each primary color according to the desired adjustment.
- 20.** (original) The system of claim **16** wherein each primary color of the color display data is linearly scaled by programmable amount and wherein said programmable amount is defined in case of a required increase of a primary color according to the equation
- $$\text{color}_{\text{adjust}} = \text{color}_{\text{unadjust}} + \text{color}_{\text{unadjust}}/2^n,$$

wherein $\text{color}_{\text{adjust}}$ is the value of the adjusted color, $\text{color}_{\text{unadjust}}$ is the value of unadjusted color, and n is a parameter set for each primary color according to the desired adjustment.

21. (original) The system of claim 1 wherein said display driver circuit is implemented as an IC.

22. (original) The system of claim 1 wherein said display driver circuit is implemented as an ASIC.

23. (currently amended) A method to adjust colors in any kind of electronic display comprising:

providing a display screen, a system processor, and a display driver circuit comprising a processor interface logic, a display adjust circuit, one or more color adjust registers, a display RAM and a screen driver circuit;

define adjustment data for each primary color used by said display screen to adjust said colors according to the properties of said screen;

store said adjustment data for each primary color in one or more registers providing one or more bits for each primary color;

define a word structure to operate the unadjusted display data and to store the adjusted display data in a display RAM wherein for each primary color a defined number of bits is assigned;

implement an algorithm to adjust each of the primary colors, used by said screen, in said display adjust circuit using a hardware description language;

download display data from system processor into display adjust circuit;

adjust display data in display adjust circuit according to algorithm implemented earlier, wherein said amount corresponds to:
adjustment = color_{unadjusted}/2ⁿ~~algorithm comprises a factor 2ⁿ~~, wherein n is a parameter set for each primary color and according adjustment data defined and stored earlier and write adjusted display data into display RAM; and

forward adjusted display data from the display RAM to the display screen by the screen driver circuit.

24. (original) The method of claim **23** wherein said primary colors belong to RGB color space.

25. (original) The method of claim **23** wherein said primary colors belong to CMY color space

- 26.** (original) The method of claim **23** wherein said word structure comprises a 16-bit word.
- 27.** (original) The method of claim **26** wherein said 16-bit word comprises five bits each for two primary colors and six bits for a third primary color.
- 28.** (original) The method of claim **27** wherein said 16-bit word comprises five bits for each red and blue 5 and 6 bits for green.
- 29.** (original) The method of claim **23** wherein said hardware description language is register transfer level (RTL) language.
- 30.** (original) The method of claim **23** wherein said algorithm to decrease a primary color value is
- $$\text{color}_{\text{adjust}} = \text{color}_{\text{unadjust}} - \text{color}_{\text{unadjust}}/2^n,$$
- wherein $\text{color}_{\text{adjust}}$ is the value of the adjusted color, $\text{color}_{\text{unadjust}}$ is the value of unadjusted color, and n is a parameter set for each primary color according to the desired adjustment.
- 31.** (previously presented) The method of claim **23** wherein said algorithm to increase a primary color value is
- $$\text{color}_{\text{adjust}} = \text{color}_{\text{unadjust}} [-] + \text{color}_{\text{unadjust}}/2^n,$$

wherein $\text{color}_{\text{adjust}}$ is the value of the adjusted color, $\text{color}_{\text{unadjust}}$ is the value of the unadjusted color, and n is a parameter set for each primary color according to the desired adjustment.

- 32.** (original) The method of claim **23** wherein said color adjustment registers are comprising three bits to store the adjustment data for each of two primary colors and four bits for a third primary color.
- 33.** (original) The method of claim **32** wherein said color adjustment registers are comprising three bits to store the adjustment data for each of blue and red and four bits for green.
- 34.** (original) The method of claim **33** wherein said adjustment data for the color red are the following bit combinations:
- 011 = +25% (2-bit shift and add),
 - 010 = +12.5% (3-bit shift and add),
 - 001 = +6.3% (4-bit shift and add),
 - 000 = no change (default value),
 - 101 = -6.3% (4-bit shift and subtract),
 - 110 = -12.5% (3-bit shift and subtract),
 - 111 = -25% (2-bit shift and subtract)

35.(original) The method of claim **33** wherein said adjustment parameters

for the color blue are the following bit combinations:

011 = +25% (2-bit shift and add),

010 = +12.5% (3-bit shift and add),

001 = +6.3% (4-bit shift and add),

000 = no change (default value),

101 = -6.3% (4-bit shift and subtract),

110 = -12.5% (3-bit shift and subtract),

111 = -25% (2-bit shift and subtract)

36.(original) The method of claim **32** wherein said adjustment parameters

for the color green are the following bit combinations:

0100 = +25% (2-bit shift and add)

0011 = +12.5% (3-bit shift and add)

0010 = +6.3% (4-bit shift and add)

0001 = +3.1% (5-bit shift and add)

0000 = no change (default value)

1001 = -3.1% (5-bit shift and subtract)

1010 = -6.3% (4-bit shift and subtract)

1011 = -12.5% (3-bit shift and subtract)

1100 = -25% (2-bit shift and subtract).